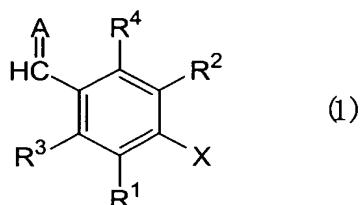


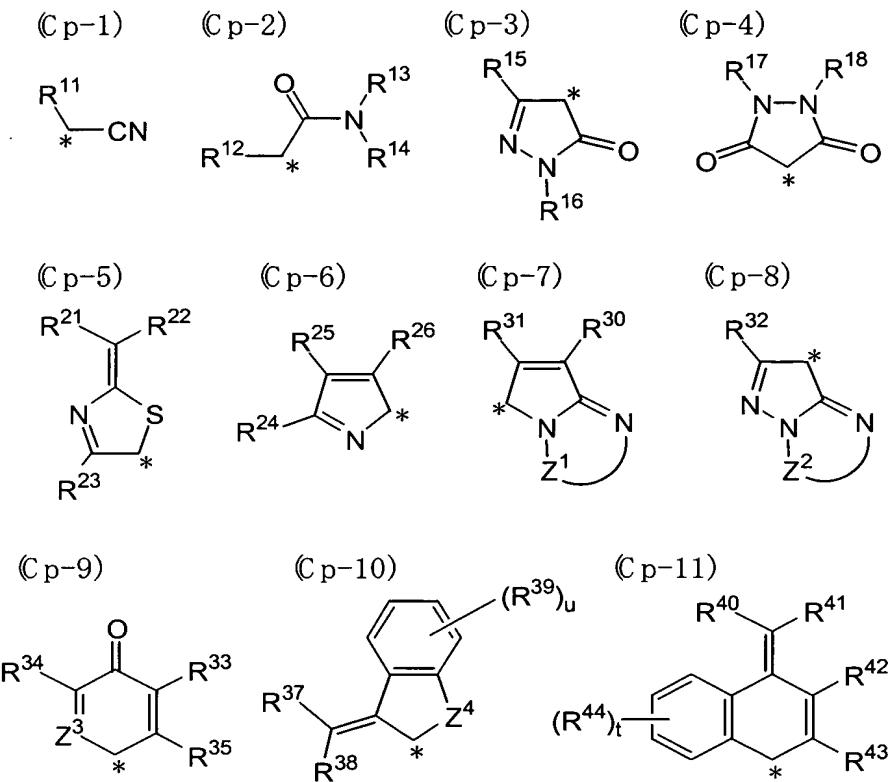
What is claimed is:

1. A hair dye composition comprising a dissociative direct dye represented by the following formula (1):



5 wherein, R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> each independently represents a hydrogen atom or a substituent, and X represents a hydroxyl group or -NHSO<sub>2</sub>R<sup>5</sup>, in which R<sup>5</sup> represents an alkyl, aryl or heterocyclic group, with the proviso that each of the groups may have one or more substituents; and A represents a divalent group capable of forming a methine dye as a whole compound together with the portion other than A.

10 2. A hair dye composition of Claim 1, wherein A in the dissociative direct dye (1) is a group represented by any one of the following formulas (Cp-1) through (Cp-11):



(in formulas (Cp-1) through (Cp-11), \* is a position bonding to the benzylidene group in formula (1),

5 in formula (Cp-1),  $R^{11}$  represents a cyano group, acyl group, aryl group, heterocyclic group or group  $-C(R^{101})=C(R^{102})-R^{103}$ , in which  $R^{101}$ ,  $R^{102}$  and  $R^{103}$  each independently represents a hydrogen atom or a substituent with the proviso that at least one of  $R^{102}$  and  $R^{103}$  is an electron attracting group having a Hammett  $\sigma_p$  value of 0.1 or greater,

10 in formula (Cp-2),  $R^{12}$  represents a cyano, acyl, alkoxy carbonyl, carbamoyl, aryl or heterocyclic group, and  $R^{13}$  and  $R^{14}$  each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-3),  $R^{15}$  represents a hydrogen atom or an alkyl, aryl, heterocyclic, amino, alkylamino, arylamino, heterocyclic amino, alkoxy, acylamino, alkoxy carbonylamino, ureido, alkoxy carbonyl, carbamoyl or cyano group, and  $R^{16}$

represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-4), R<sup>17</sup> and R<sup>18</sup> each independently represents a hydrogen atom

or an alkyl, aryl or heterocyclic group,

in formula (Cp-5), R<sup>21</sup> and R<sup>22</sup> each independently represents a cyano,

5 carbamoyl, alkoxy carbonyl, alkylsulfonyl or arylsulfonyl group, and R<sup>23</sup> represents a hydrogen atom or an alkyl, aryl or heterocyclic group,

in formula (Cp-6), R<sup>24</sup>, R<sup>25</sup> and R<sup>26</sup> each independently represents a hydrogen atom or a substituent,

10 in formula (Cp-7), R<sup>30</sup> and R<sup>31</sup> each independently represents a hydrogen atom or a substituent, and Z<sup>1</sup> represents an atomic group necessary for the formation of a 5- or 6-membered ring together with N-C=N,

in formula (Cp-8), R<sup>32</sup> represents a hydrogen atom or a substituent, and Z<sup>2</sup> represents an atomic group necessary for the formation of a 5- or 6-membered ring together with N-C=N,

15 in formula (Cp-9), R<sup>33</sup>, R<sup>34</sup> and R<sup>35</sup> each independently represents a hydrogen atom or a substituent, Z<sup>3</sup> represents a nitrogen atom or -C(R<sup>36</sup>)=, R<sup>36</sup> representing a hydrogen atom or a substituent, with the proviso that when Z<sup>3</sup> represents -C(R<sup>36</sup>)=, R<sup>34</sup> and R<sup>36</sup> may be coupled to form a 5-membered or 6-membered ring,

20 in formula (Cp-10), R<sup>37</sup> and R<sup>38</sup> each independently represents a cyano, carbamoyl, alkoxy carbonyl, alkylsulfonyl or arylsulfonyl group, R<sup>39</sup> represents a hydrogen atom or a substituent, u stands for an integer of from 0 to 4, and Z<sup>4</sup> represents -SO<sub>2</sub>- or -SO-, and

25 in formula (Cp-11), R<sup>40</sup> and R<sup>41</sup> each independently represents a cyano, carbamoyl, alkoxy carbonyl, alkylsulfonyl or arylsulfonyl group, R<sup>42</sup>, R<sup>43</sup> and R<sup>44</sup> each independently represents a hydrogen atom or a substituent, and t stands for an integer of

from 0 to 4, with the proviso that the above-described groups may have one or more substituents.)

3. A hair dye composition of Claim 1, wherein R<sup>1</sup> and R<sup>2</sup> in the dissociative direct dye (1) are each a hydrogen or halogen atom, or an alkyl, cyano, acylamino, ureido, alkoxycarbonylamino, aryloxycarbonylamino, sulfamoylamino, alkylsulfonylamino, arylsulfonylamino, alkoxycarbonyl, sulfamoyl or carbamoyl group.

4. A hair dye composition of Claim 1, wherein R<sup>3</sup> and R<sup>4</sup> in the dissociative direct dye (1) are each a hydrogen atom, a halogen atom, or an alkyl or acylamino group which may be substituted.

5. A hair dye composition of Claim 1, wherein X in the dissociative direct dye (1) is a hydroxyl group or -NHSO<sub>2</sub>R<sup>5</sup>, in which R<sup>5</sup> is an alkyl group which may be substituted.

6. A hair dye composition of Claim 2, wherein A in the dissociative direct dye (1) is a group (which may have one or more substituents) selected from the groups represented by:

formula (Cp-1) in which R<sup>11</sup> is a cyano group, acyl group, heterocyclic group or group -C(R<sup>101</sup>)=C(R<sup>102</sup>)-R<sup>103</sup>,

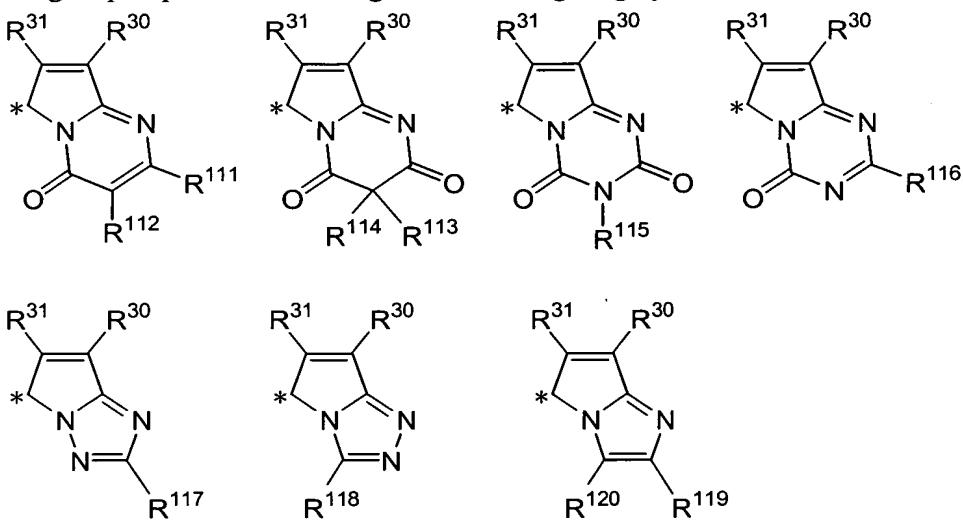
formula (Cp-2) in which R<sup>12</sup> is a cyano group, aryl group or heterocyclic group and R<sup>13</sup> and R<sup>14</sup> are each a hydrogen atom, alkyl group or aryl group, with the proviso that at least one of R<sup>13</sup> and R<sup>14</sup> represents a hydrogen atom,

formula (Cp-3) in which R<sup>15</sup> is an alkyl, amino, alkylamino, arylamino, heterocyclic amino, alkoxy, acylamino, alkoxycarbonylamino, ureido, alkoxycarbonyl, carbamoyl or cyano group, and R<sup>16</sup> is an aryl or heterocyclic group,

formula (Cp-4) in which R<sup>17</sup> and R<sup>18</sup> are each an alkyl or aryl group,

formula (Cp-5) in which R<sup>21</sup> and R<sup>22</sup> are each a cyano, carbamoyl or

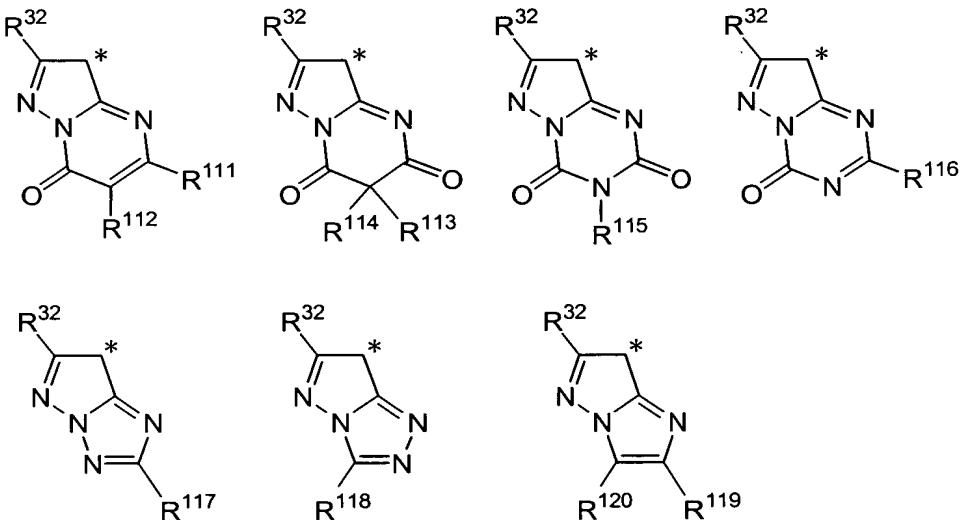
alkoxycarbonyl group, and R<sup>23</sup> is a hydrogen atom, alkyl group or alkyl group, formula (Cp-6) in which R<sup>24</sup> is a hydrogen atom or an aryl, acylamino, alkylsulfonylamino or arylsulfonylamino group, and R<sup>25</sup> and R<sup>26</sup> are each a hydrogen atom or an aryl, aloxycarbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or cyano group, formula (Cp-7) in which R<sup>30</sup> and R<sup>31</sup> are each a hydrogen atom or an alkyl, aryl, heterocyclic, aloxycarbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or cyano group, and Z<sup>1</sup> is a group capable of forming the following ring systems:



wherein, R<sup>111</sup> represents a hydrogen atom or an alkoxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, aloxycarbonylamino, aryloxycarbonylamino, sulfamoylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio, arylthio or heterocyclic thio group, R<sup>112</sup> represents a hydrogen or halogen atom, or an alkyl, acyl, carbamoyl or aloxycarbonyl group, R<sup>113</sup> and R<sup>114</sup> each independently represents a hydrogen atom or an alkyl group, R<sup>115</sup> represents a hydrogen atom or an alkyl group, and R<sup>116</sup> represents a hydrogen atom or an alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, aloxycarbonylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio or arylthio group, R<sup>117</sup> and R<sup>118</sup> each independently represents a hydrogen atom or an alkyl, aryl or heterocyclic group, and

$R^{119}$  and  $R^{120}$  each independently represents a hydrogen atom or an alkyl, aryl, heterocyclic, acyl, alkoxy carbonyl or carbamoyl group or they may be coupled together to form a benzene ring,

5 formula (Cp-8) in which  $R^{32}$  is a hydrogen atom or an alkyl, aryl, heterocyclic, alkoxy carbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or cyano group, and  $Z^2$  is a group capable of forming the following ring systems:



in which,  $R^{111}$  to  $R^{120}$  have the same meanings as described above,

10 formula (Cp-9) in which  $Z^3$  is  $-C(R^{36})=$ ,  $R^{36}$  represents a hydrogen atom or an acylamino group,  $R^{33}$  and  $R^{34}$  are each a hydrogen atom, a halogen atom, an alkyl group or acylamino group, and  $R^{35}$  is a hydrogen atom or an alkyl group; or in which  $Z^3$  is  $-C(R^{36})=$ , and  $R^{34}$  and  $R^{36}$  are coupled together to form a benzene ring which may be substituted with a halogen atom or an amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxy carbonylamino, alkylsulfonylamino or arylsulfonylamino group,

15 formula (Cp-10) in which  $R^{37}$  and  $R^{38}$  are a cyano or alkoxy carbonyl group,  $R^{39}$  is a hydrogen or halogen atom or an alkyl, aryl, alkoxy, aryloxy, amino, alkylamino, arylamino, heterocyclic amino, acylamino, ureido, alkoxy carbonylamino,

alkylsulfonylamino, arylsulfonylamino, alkylthio or arylthio group, u is an integer of from 0 to 2, and  $Z^4$  is  $-\text{SO}_2-$ , and

formula (Cp-11) in which  $R^{40}$  and  $R^{41}$  are each a cyano or alkoxy carbonyl group, and  $R^{42}$ ,  $R^{43}$  and  $R^{44}$  are each a hydrogen or halogen atom or an alkyl, aryl, 5 alkoxy, aryloxy, amino, acylamino, ureido, alkoxy carbonylamino, alkylsulfonylamino, arylsulfonylamino, alkylthio or arylthio group.

7. A hair dye composition of Claim 2 or 6, wherein A in the dissociative direct dye (1) is a group represented by formula (Cp-1), (Cp-2), (Cp-3), (Cp-4) or (Cp-8).